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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,869

12/21/2005

Thomas Henry Bell

KC-0164

1398

34610 7590 02/26/2008

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EXAMINER

SCHNEIDER, CRAIG M

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

02/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,869	<b>Applicant(s)</b> BELL, THOMAS HENRY	
	<b>Examiner</b> CRAIG M. SCHNEIDER	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 7, 13, 19-26, and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12, 14-18, and 27 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☒ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/5/06</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Claims 5, 7, 13, 19-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/8/08.

2. Applicant's election with traverse of Species B in the reply filed on 1/8/08 is acknowledged. The traversal is on the ground(s) that the subject matter for the additional species would be found using the same search area as what would be used to search Species B. This is not found persuasive because even though the additional species might be located in the same search area the examiner asserts that the searching for the additional species would be a serious burden since the examiner is not looking for one inventive idea but five in the situation.

The requirement is still deemed proper and is therefore made FINAL.

3. The examiner has further identified that claim 5 would read on the elected species and will examiner this claim. Claim 28 has been incorrectly included in the original grouping of Species B and will be removed at this time. The claims that will be examined are as follows: 1-6, 8-12, 14-18, and 27.

### ***Priority***

4. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in United Kingdom on 6/24/03. It is noted, however, that applicant has not filed a certified copy of the 0314680.0 application as required by 35 U.S.C. 119(b).

### ***Drawings***

5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “more tubes connected a first end of the first diaphragm” of claim 6 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures.

6. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: “303” located on page 18, line 21. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application

must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Specification***

8. The disclosure is objected to because of the following informalities:

On page 18, line 21 "303" should be --203--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-6, 8-12, 18, and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen (4,945,944).

Chen discloses a valve system (1) for use with a variable head of fluid, the valve system comprising a first diaphragm (51) and a means for (7, 6, 631, 61, 4, and 41) transferring a fluid pressure associated with the variable head of a first fluid to the first diaphragm wherein the position of the first diaphragm is controlled by the fluid pressure associated with the variable head of the first fluid (col. 2, line 63 to col. 5, line 64).

Regarding claim 2, wherein when the valve system is deployed the first diaphragm is located above the variable head of the first fluid as seen in Figure 6B.

Regarding claim 3, wherein the valve system is connected to a supply line (2a) to the variable head of the first fluid such that the first diaphragm moves between an open position as seen in Figure 6A, wherein the first fluid is free to flow within the fluid supply line, and a closed position as seen in Figure 6B, wherein the first fluid is prevented from flowing within the fluid supply line.

Regarding claim 4, wherein the first diaphragm comprises a blocking means (chamber between 51 and 4) to assist the first diaphragm move to the closed position.

Regarding claim 5, wherein the means for transferring a fluid pressure associated with the variable head of the first fluid comprises a compressible second fluid (air)(col. 5, lines 3-17).

Regarding claim 6, wherein the compressible second fluid is contained within one or more tubes (7) connected at a first end to the first diaphragm and positioned so that when in use the second end of the one or more tubes are located below the surface of the head of variable first fluid as seen in Figure 6B.

Regarding claim 8, wherein the tube is connected to the first diaphragm via a diaphragm valve (6).

Regarding claim 9, wherein the means for transferring a fluid pressure further comprises one or more chambers (61 and chamber between 51 and 4) located between the diaphragm valve and the first diaphragm.

Regarding claim 10, wherein the first diaphragm comprises an aperture (511) that provides a means for communicating a sample taken from the supply line to the variable head of the first fluid to the one or more chambers.

Regarding claim 12, wherein the valve system further comprises an adjuster (73 and 74) wherein the adjuster provides a means for varying the dependency of the position of the first diaphragm to the fluid pressure associated with the variable head of the first fluid.

Regarding claim 18, wherein the diaphragm valve comprises a plunger (631) that assists movement to the closed position.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Hostetler (4,344,456).

Chen discloses all the features of the claimed invention except that wherein the adjuster comprises a means for varying the resistance to activate the diaphragm valve and further wherein the means for varying the resistance to activate the diaphragm valve comprises a bias means and an adjustment screw wherein the position of the adjustment screw defines the resistance force applied by the bias means to the diaphragm valve. Hostetler discloses a valve system wherein the adjuster (30, 34, 38, 40, 42, 44, 46, 48, 50, and 52) comprises a means for varying the resistance (46) to activate the diaphragm valve and further wherein the means for varying the resistance to activate the diaphragm valve comprises a bias means (50) and an adjustment screw

(46) wherein the position of the adjustment screw defines the resistance force applied by the bias means to the diaphragm valve (col. 3, lines 9-30 and col. 4, line 34 to col. 5, line 32).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the spring adjustment device of Hostetler onto the diaphragm valve of Chen, in order to regulate the movement of the diaphragm valve.

13. Claims 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen in view of Tanikawa (2002/0124880).

Chen discloses all the features of the claimed invention except that wherein the valve system further comprises an automatic cut off means so that in the event of mechanical failure the first diaphragm is moved to the closed position and further wherein the automatic cutoff means comprises one or more sections of absorbent material such that when the first fluid is incident on the absorbent material expansion occurs so as to cause the diaphragm valve to close. Tanikawa discloses an absorbent material<sup>203</sup> that is used to close a valve (209) when the absorbent material comes into contact with a liquid as seen in Figure 2(a) and 2(b)(page 2, para. 21-22 and page 3, para. 32-33).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the absorbent material of Tanikawa below the diaphragm valve of Chen, in order to ensure that if the water level rises to the point of the diaphragm valve the absorbent material will close the valve as disclosed by Tanikawa.



***Conclusion***

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pataki et al. (4,292,996) and Langhans (2,988,099) disclose water flow devices that control the flow of water via diaphragms that are actuated by the pressure created by the water level in the device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRAIG M. SCHNEIDER whose telephone number is (571)272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Greg Huson can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. M. S./  
Examiner, Art Unit 3753  
February 19, 2008

/John Rivell/  
Primary Examiner, Art Unit 3753